Sheepnose

Plethobasus cyphyus

Common name • Sheepnose
Scientific name • *Plethobasus cyphyus*
State status • Endangered

Ecology

In Missouri, the sheepnose is limited to the Meramec River basin in the east-central part and the upper Mississippi River in the northeastern part of the state. It has been found in a range of substrates but in the Meramec River seems to prefer a sand-gravel-cobble substrate in swift to moderate current. It can be found in water that is a few inches to 2 feet deep.

Mussels are filter feeders that pump water through their siphons to collect food particles from the water. They gather necessary nutrients and remove unwanted toxins from the water through this process. Almost all mussel species depend on a fish host to complete their life cycle. Mature adult mussels release glochidia (the immature stage), which must attach to the gills or fins of fish to complete their development. After an average of 2-4 weeks, the newly metamorphosed juveniles drop from the fish; and if they land in suitable habitat, they will burrow into the substrate and grow to repeat the cycle. Fish are an important link in the reproductive cycle of mussels and, typically, only certain species of fish are suitable hosts. Little is known about the life history of the sheepnose. The species is thought to spawn in the spring with gravid females releasing glochidia through July. The sheepnose reportedly uses the sauger as its fish host.

Reasons for Decline

Historically, sheepnose populations extended throughout the river systems in much of the Midwestern United States, from Minnesota south to Louisiana, Iowa east to Ohio. Although little research has been done specifically on this species, the sheepnose is like most mussels in that its population has continued to decline over the last few decades. Alteration and degradation of habitat as a result of rural and urban development has very likely adversely impacted them. Such practices as dam construction, gravel mining, removal of trees and undergrowth along the stream bank, and non-point source pollution from agriculture and urban areas have probably contributed to the decline. These practices have reduced available habitat, increased stagnation of bottom waters, increased siltation, and possibly eliminated or reduced fish hosts.

Specific Recommendations

Habitat availability and water quality are likely the limiting factors for the sheepnose. Correcting these problems would go a long way toward saving many species of mussels.

→ A survey of the waterways in the project area should be conducted by a trained biologist in order to identify occurring populations of this species.

→ Dams and other impoundment structures that alter water depth and turbidity and promote siltation should be avoided in rivers that contain habitat for the sheepnose.

→ No work should be allowed below the high bank of the stream between April 1 to July 31.

→ All equipment that enters the waterway should be washed and checked for juvenile zebra mussels before entering another body of water. This will help prevent the spread of this exotic European mussel species that can negatively impact native aquatic organisms and mussel species like the sheepnose.

General Recommendations

Refer to Management Recommendations for Construction Projects Affecting Missouri Streams and Rivers.

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3/2000